

10/530815

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
3 March 2005 (03.03.2005)

PCT

(10) International Publication Number  
**WO 2005/019303 A1**

(51) International Patent Classification<sup>7</sup>: C08G 65/32,  
H01L 21/31, 23/58

Chemistry, Pohang University of Science and Technology,  
San 31 Hyoja-dong, Nam-gu, Pohang-city, Kyungsang-  
buk-do 790-784 (KR).

(21) International Application Number:  
PCT/KR2004/002104

(74) Agent: LEE, Young-Pil; The Cheonghwa Bldg., 1571-18  
Seocho-dong, Seocho-gu, Seoul 137-874 (KR).

(22) International Filing Date: 20 August 2004 (20.08.2004)

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(26) Publication Language: English

**Published:**

— with international search report

(30) Priority Data:  
10-2003-0057992 21 August 2003 (21.08.2003) KR

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

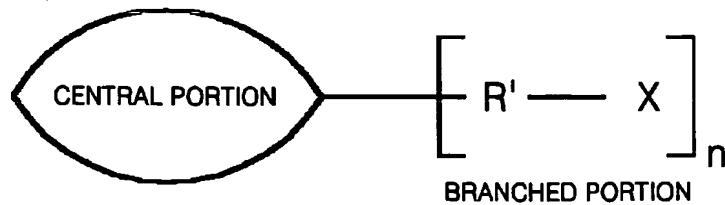
(71) Applicant (for all designated States except US): POSTECH FOUNDATION [KR/KR]; San 31 Hyoja-dong, Nam-gu, Pohang-city, Kyungsangbuk-do 790-784 (KR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): REE, Moonhor [KR/KR]; Dept. of Chemistry, Pohang University of Science and Technology, San 31 Hyoja-dong, Nam-gu, Pohang-city, Kyungsangbuk-do 790-784 (KR). OH, Weontae [KR/KR]; Dept. of Chemistry, Pohang University of Science and Technology, San 31 Hyoja-dong, Nam-gu, Pohang-city, Kyungsangbuk-do 790-784 (KR). HWANG, Yong-Taek [KR/KR]; Dept. of Chemistry, Pohang University of Science and Technology, San 31 Hyoja-dong, Nam-gu, Pohang-city, Kyungsangbuk-do 790-784 (KR). LEE, Byeongdu [KR/KR]; Dept. of

WO 2005/019303 A1

(54) Title: LOW DIELECTRIC ORGANOSILICATE POLYMER COMPOSITE



composite film has a very low dielectric constant, and thus, is useful as a dielectric

(57) Abstract: Provided are a porous organosilicate polymer composite prepared by heating an organic/inorganic hybrid polymer in which an organosilicate polymer is chemically bonded to a radial pore-forming polymer ended with a hydrolyzable alkoxysilyl group and used as a core molecule, and a semiconductor device using an organosilicate polymer composite film including the porous organosilicate polymer composite. The organosilicate polymer film of the semiconductor device.